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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,228	11/03/2003	Chang Shin Park	IP-023044	3107

7590 09/30/2004

Ostrager Chong & Flaherty LLP  
30th Floor  
825 Third Avenue  
New York, NY 10022-7519

EXAMINER

HALPERN, MARK

ART UNIT PAPER NUMBER

1731

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/700,228	<b>Applicant(s)</b> PARK ET AL.	
	<b>Examiner</b> Mark Halpern	<b>Art Unit</b> 1731	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10131103 + 8126104</u> | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Priority*

1) Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. However, the provisional application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for claims 1-12, of this application.

The provisional application 60/423,266, filed on 11/1/2002. The present application 10/700,228 was filed on 11/3/2003, which is over one year in duration over the filing date of the provisional application.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2) Claims 1-11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (4,526,653).

Claims 1-8: Anderson discloses a paper machine multiplayer headbox 1 used to distribute a papermaking stock across the width of a moving wire to create a paper web. The formed web is then drained and dried in a known manner as disclosed by the references cited by Anderson (col. 1, lines 27-60). The Anderson headbox includes partitions 8, 9, located within the headbox outer walls 2, 3, defining three separate

spaces 6 within the headbox. The stock is delivered to each of the spaces 6 by lines 16, 17 and 18. Three ultrasonic transducer means 39, 40, 41, are mounted on the partitions of the headbox near their downstream ends producing acoustic radiation across the exiting pulp stream (col. 3, line 18 to col. 6, line 68, and Figure). Anderson is silent on the pulp suspension separating into fractions according to the relative sizes of the fibers, however, it would have been obvious, to one skilled in the art at the time the invention was made, that at least some of the pulp suspension separating into fractions according to the relative sizes of the fibers would occur in each of the stock partitions of Anderson, since the system of Anderson is undergoing the same operation under the same conditions as recited in the present invention.

Claims 9-10: the transducers are connected to a source of electric power in order to operate. The transducer includes receivers (col. 6, lines 26-68).

Claim 11: it would have been obvious that the acoustic radiation forces be in the claimed range, since the lower end of the range is zero.

3) Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Brodeur (5,979,664). Anderson is applied as above for claim 2, Anderson is silent on the transducer frequency range. Brodeur discloses method of acoustic method fractionation using ultrasonic wave fields to separate fibers in the paper and pulp industry, wherein the transducer frequency used is 150 kHz (Abstract, and col. 6, lines 12-48). It would have been obvious, to one skilled in the art at the time the invention was made, to combine the teachings of Anderson and Brodeur, because such a combination would provide a transducer frequency in the design of Anderson

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applicable to a variety of suspensions and under different flow conditions as disclosed by Brodeur.

**Conclusion**

4) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Halpern whose telephone number is 571-272-1190. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Mark Halpern